Stecker has sent home a detailed description of the country surrounding Massaua, together with meteorological observations, which will shortly be published.——An expedition sent out by the French government from Senegal to the Niger, has reached Segou-Sikorro, on the Niger, and found the Sultan well disposed and willing to allow the French to navigate and trade on the Niger. Captain Gallieni, commanding the expedition, finds that near Bamaku, the water shed of the Niger and Senegal basins, is only a few miles from the former river and the water parting is so indistinctly marked, that during the rainy season the water flows sometimes into one river and sometimes into the other.——Recent explorations by French travelers show that the western Sahara has considerable tracts of lands that can be reclaimed and fertilized by boring artesian wells, and where this has been done luxuriant gardens planted with date, fig, and other fruit trees, and fields of barley have taken the place of stunted shrubs or bare, sandy soil. The land of Adrar in the south-west is placed like a long narrow island between two bands of sand and contains a considerable population. Yet while the skill of the French engineers would no doubt overcome the natural difficulties in the way of the railroad projected through this region of sand hills, it is not easy to understand how a paying traffic could be secured or how the road could be protected from the hostility of the natives.——Great activity continues to exist on the east coast of the African continent, where many expeditions continue to enter, chiefly from Zanzibar. The strictly scientific exploring parties are outnumbered by the missionary companies, but none of them have added much of late to our knowledge of this portion of Africa, their letters relating simply their advances from station to station, and often containing sad stories of misfortune, starvation, or death. At the same time permanent stations have been established in the interior and on Lake Taganyika, and more successful results may reasonably be expected in the future.

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MICROSCOPY.[1]

Examination of Metalliferous Clays.—Mr. Melville Atwood, in a paper on the clays in the Comstock lode, read before the San Francisco Microscopical Society, describes as follows the method of separating and examining the gold-bearing fragments.

"The way in which I made the examination of the clays was, first, to place them in a porcelain dish, pouring hot water over and keeping them in the water for several hours, stirring occasionally, till all the particles that would dissolve were taken up by the water. Afterward I emptied the contents of the porcelain dish into a batéa, allowing everything that was dissolved to float away. By the batéa the pyritic matter and other heavy bodies

[1] This department is edited by Dr. R. H. Ward, Troy, N. Y.

were separated from the rest of the coarser, rounded and lighter fragments of vein-stuff and country rock. The pyritic matter is then tested for gold, silver and tellurium, and also a microscopic examination of it is made under water. The fragments of country rock and vein-stuff are then washed again, using a brush to rid them of any clay that might still adhere to them. After drying, they are put into a separator having sieves with 30, 50 and 100 holes to the linear inch—a uniform size enabling me to examine them better with the microscope. The fragments that pass through the sieve having 100 holes, I place in a small cell, fastened on the glass slide, and filled with water, which I cover with thin glass—the shape of the fragments are seen much better in this way, since by slightly moving the thin glass cover, they can be made to turn and exhibit their forms in different directions.

ARRANGING SMALL OBJECTS ON SLIDES.—Mr. Julien Deby proposes to facilitate the arrangement of diatoms, foraminifera and other small objects on slides for mounting, by drawing on the plain mirror of the microscope regular lines in crosses, circles, or any desired patterns. The achromatic condenser being so focussed that the image of these lines shall be in focus of the objective at the same time with the object slide, there is no difficulty in similarly arranging the objects by hand or by means of a mechanical finger.

THE HARTNACK MICROSCOPES.—It is now eleven years since Hartnack was—in common with other Prussians during the Franco-Prussian war—compelled to leave France. He immediately settled in Potsdam, and there established an optical factory for microscopical work. M. Prazmowski, who had been for several years working with Hartnack, was admitted into partnership, and took entire charge of the house in Paris. The exhibit of microscopes, &c., at the Paris Exhibition of 1878, was by the firm Hartnack & Prazmowski. Since that date the partnership has been dissolved; the Potsdam house remaining exclusively Hartnack's, and the Paris house Prazmowski's. It is well known in Paris that to M. Prazmwoski's mathematical attainments have been due the improvements developed by the house during the past fifteen years or more.—*F. R. M. S. in Eng. Mechanic and World of Science.*

NEW SEA-SIDE LABORATORY.—Professor A. Hyatt, the curator of the Boston Society of Natural History, announces that a sea-side laboratory will be opened, this year, under his direction, at Annisquam, Mass., three miles from Gloucester, from June 5th to September 15th. The laboratory, which is designed rather for teachers or students of some experience than for beginners in Natural History, will be under the immediate care of Mr. B. H. Van Vleck, assistant in the Museum and Laboratory of the Boston Society of Natural History. Students are advised to bring their own

microscopes. Only a limited number of students can be accommodated; and applicants should state the amount of their previous experience in such work.

MICROSCOPIC OBJECTS.—Mr. M. A. Booth, of Longmeadow, Mass., is furnishing unmounted objects, by mail, at the price of one dollar for twenty-five packets. Printed lists of the objects offered can be obtained from him.

Mr. Geo. W. Morehouse, of Wayland, N. Y., has issued a list of mounted objects, chiefly animal substances and preparations of various kinds, which he is offering for sale at thirty cents each, or four for one dollar.

Mr. David Folsom, of Chicopee, Mass., has also undertaken to prepare objects for sale, or mount them to order.

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SCIENTIFIC NEWS.

— At the last meeting of the State Natural History Society of Illinois, Professor J. G. Forbes said that the time for argument in scientific societies respecting the truth of the doctrine of evolution had passed, as scientific men were substantially agreed that it was either strictly true or a close approximation to the truth. He traced the rapid progress of the doctrine in this country, accounting for this by the fact that naturalists found its principles continually verified by new discoveries springing up all over the earth. This point was illustrated by some of his own observations on the development and anatomy of certain fishes, of which he had made a special study.

Passing to the application of the development theory, the speaker took up, as an instance of its practical uses, the subject of the restocking of our waters with their native species of fish. He criticized the idea put forward by prominent fish-culturists, that fishes could be artificially multiplied to such a degree that it would make no difference how or when or in what numbers, they were captured, showing that this idea involved a contradiction of the doctrine of natural selection. The conclusion was reached that the protection of fishes was fully as important as their artificial multiplication. He showed that the food supplies of fishes were diminished by the drainage of swamps, restriction of overflows by levees, and other operations attendant upon the settlement of a country; and that it was therefore not to be expected that the fishes of a body of water could be permanently kept up to as high a number as occurred there naturally in a state of primeval nature.

— The fourth session of the Marine Laboratory maintained by the Johns Hopkins University in connection with its biological department, will commence at Beaufort, N. C., May 2, 1881. The session will continue until the end of August. Dr. W. K. Brooks,